

REMARKS / DISCUSSION OF ISSUES

Claims 1-29 are pending in the application.

The Office action objects to claim 29; claim 29 is correspondingly amended herein.

The Office action rejects claims 8 and 14 under 35 U.S.C. 112, second paragraph; claims 8 and 14 are correspondingly amended herein.

The claims are not narrowed in scope and no new matter is added. Entry after final action is proper because the scope of the claims is not changed and no further searching is required.

The Office action rejects claims 1-2, 5-9, and 14-29 under 35 U.S.C. 103(a) over Nagai (USP 6,011,355) and Yao et al. (USP 5,844,373, hereinafter Yao). The applicants respectfully traverse this rejection.

Claim 1, upon which claims 2-13 and 28 depend, claims a circuit arrangement for an AC voltage supply of a plasma display panel that includes a transistor bridge, an input voltage coupled to a pair of voltage input nodes of the transistor bridge, a capacitor of a plasma cell coupled to a pair of voltage output nodes of the transistor bridge, a DC voltage converter that provides an auxiliary charging voltage from the input voltage, and a charging current circuit that receives the auxiliary charging voltage and provides charging current to the capacitor.

Claim 14, upon which claims 15-27 depend, and claim 29 also include a DC voltage converter that provides an auxiliary charging voltage from an input voltage, and a charging current circuit that receives the auxiliary charging voltage and provides charging current to the capacitor of the plasma cell.

Neither Nagai nor Yao, individually or collectively, teaches nor suggests a charging current circuit that receives auxiliary charging voltage from a DC converter and provides charging current to a capacitor of a plasma cell.

The Office action acknowledges that Nagai fails to teach a charging current circuit that receives auxiliary charging voltage from a DC converter and provides charging current to a capacitor of a plasma cell, and relies upon Yao for this teaching.

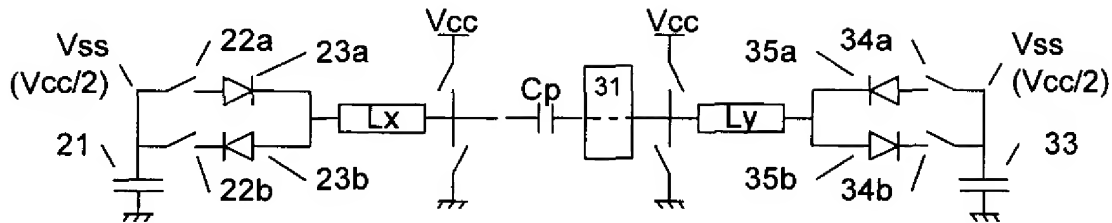
Yao teaches a power-supply circuit that receives an input voltage V_s and provides two output voltages V_a and V_w . Yao's circuit can thus be termed a DC converter. However, Yao does not teach or suggest that the voltages V_a and V_w are provided to a charging circuit. Yao does not teach or suggest a charging circuit, per se. The Office action asserts that Yao's FIG. 6 teaches a charging circuit, but provides no basis for this assertion. Yao's FIG. 6 is clearly a DC converter; it receives a DC input voltage V_s , and provides two DC output voltages V_a and V_w .

Nagai teaches a conventional charging circuit, but does not teach that this charging circuit should receive an auxiliary charging voltage. The mere fact that Yao provides a power supply does not suggest that this power supply, or any power supply, should or could be connected to Nagai's charging circuit. As MPEP 2143 clearly states: "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." Nagai does not suggest that adding an auxiliary charging voltage to the charging circuit would be desirable, and Yao does not address a charging circuit at all.

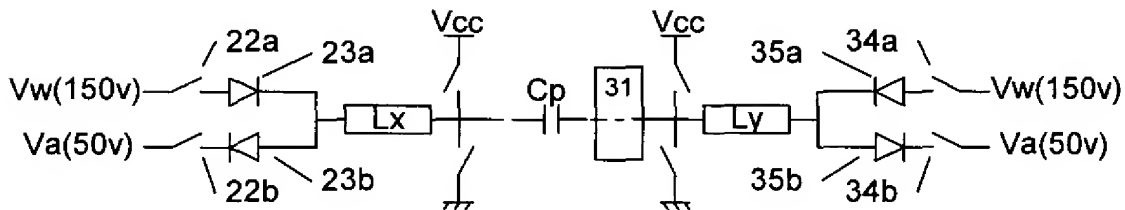
Because neither Nagai nor Yao teach or suggest providing an auxiliary voltage to a charging circuit, the applicants respectfully maintain that the rejection of claims 1-2, 5-9, and 14-29 under 35 U.S.C. 103(a) over Nagai and Yao is unfounded, per MPEP 2143.

Additionally, the applicants respectfully maintain that the combination of Nagai and Yao would not be evident to one of ordinary skill in the art, and that such a combination would not, per se, result in an operational plasma display.

The Office action asserts that the combination of Yao and Nagai would include connecting Yao's voltages V_w to the source electrode of Nagai's element 22a, and voltage V_a to the source electrode of Nagai's element 22b, and removing Nagai's capacitor 21. The following schematics correspond to Nagai's teachings and the proposed combination.



Nagai



Proposed Combination

The applicants again note that there is no suggestion in the prior art to remove Nagai's capacitor 21 (33), and, absent the applicants' disclosure, there is no suggestion to couple different DC voltages to the source nodes of 22a and 22b (34a and 34b).

Additionally, Nagai's circuit operates by maintaining the voltage at the source electrodes of elements 22a and 22b (34a and 34b) at a voltage V_{ss} that is substantially equal to, or slightly higher than half the input voltage V_{cc} (Nagai, column 3, lines 33-44; column 21, lines 10-22). Current flows back and forth through the plasma cell between the equi-potential nodes (22a to 34b; 34a to 22b) due to the resonance of the series connection of the L_x and L_y inductors and the capacitors 21 and 33.

Yao specifically teaches that V_w is generated to be three times the value of V_a (nominally, V_w is 150v and V_a is 50v). The applicants respectfully maintain that applying such an unbalanced set of voltages to Nagai's elements 22a and 22b (34a

and 34b) will have unpredictable consequences, and will likely result in a non-operative display, or at best, a highly distorted display with substantial switching inefficiencies and high EMI emissions. The applicants respectfully maintain that Nagai's resonant circuit operation requires/provides symmetric operation, and a 3x difference in potentials across the bridging circuit will prevent this symmetry and likely preclude the resonant operation relied upon by Nagai.

The Office action rejects claims 3-4 and 10-13 under 35 U.S.C. 103(a) over Nagai, Yao, and Breunig et al. (USPA 2001/0023488, hereinafter Breunig). The applicants respectfully traverse this rejection.

Each of these rejected claims is a dependent claim. In this rejection, the Office action relies upon Nagai and Yao for teaching the elements of claim 1. As noted above, there is no suggestion in the prior art to combine Nagai and Yao as proposed in the Office action, and thus the applicants respectfully maintain that the rejection of claims 3-4 and 10-13 under 35 U.S.C. 103(a) that relies upon the combination of Nagai and Yao as proposed is unfounded, per MPEP 2143.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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